SEQUENCE LISTING

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Thr Leu Lys Ile Ser Arg Ile Glu Ala Glu Asp Leu Gly Leu Tyr Tyr
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Pro Gly Gln Ser Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp
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Ser Gly Val Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe
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Val Gln Cys Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Lys 1 cct gga gcg tct ctg aaa ctc tcc tgt gca gcc tct gga ttc act ttc Pro Gly Ala Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe 15 20 agt aac tat ggc atg tct tgg gtt cgc cag aat tca gac aag agg ctg Ser Asn Tyr Gly Met Ser Trp Val Arg Gln Asn Ser Asp Lys Arg Leu 30 35 gag tgg gtt gca tcc att agg agt ggt ggt aga acc tac tat tca Glu Trp Val Ala Ser Ile Arg Ser Gly Gly Gly Arg Thr Tyr Tyr Ser 50 gac aat gta aag ggc cga ttc acc atc tcc aga gag aat gcc aag aac Asp Asn Val Lys Gly Arg Phe Thr Ile Ser Arg Glu Asn Ala Lys Asn 65 acc ctg tac ctg caa atg agt agt ctg aag tct gag gac acg gcc ttg 80 85 86 87 87 88 89 89 80 85 86 87 88 89 89 89 80 80 80 80 80 80	8
Pro Gly Ala Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe 15 agt aac tat ggc atg tct tgg gtt cgc cag aat tca gac aag agg ctg Ser Asn Tyr Gly Met Ser Trp Val Arg Gln Asn Ser Asp Lys Arg Leu 30 gag tgg gtt gca tcc att agg agt ggt ggt ggt aga acc tac tat tca Glu Trp Val Ala Ser Ile Arg Ser Gly Gly Gly Arg Thr Tyr Tyr Ser 50 gac aat gta aag ggc cga ttc acc atc tcc aga gag aat gcc aag aac Asp Asn Val Lys Gly Arg Phe Thr Ile Ser Arg Glu Asn Ala Lys Asn 65 acc ctg tac ctg caa atg agt agt ctg aag tct gag gac acg gcc ttg Thr Leu Tyr Leu Gln Met Ser Ser Leu Lys Ser Glu Asp Thr Ala Leu 80 85 86 87 88 88 88 89 89 88 89 88 89 80 80	6
Ser Asn Tyr Gly Met Ser Trp Val Arg Gln Asn Ser Asp Lys Arg Leu 30 45 gag tgg gtt gca tcc att agg agt ggt ggt ggt aga acc tac tat tca 24 Glu Trp Val Ala Ser Ile Arg Ser Gly Gly Gly Arg Thr Tyr Tyr Ser 50 55 60 gac aat gta aag ggc cga ttc acc atc tcc aga gag aat gcc aag aac Asp Asn Val Lys Gly Arg Phe Thr Ile Ser Arg Glu Asn Ala Lys Asn 65 70 75 acc ctg tac ctg caa atg agt agt ctg aag tct gag gac acg gcc ttg Tr Leu Tyr Leu Gln Met Ser Ser Leu Lys Ser Glu Asp Thr Ala Leu 80 90	.44
Glu Trp Val Ala Ser Ile Arg Ser Gly Gly Arg Thr Tyr Tyr Ser 50 55 60 28 gac aat gta aag ggc cga ttc acc atc tcc aga gag aat gcc aag aac Asp Asn Val Lys Gly Arg Phe Thr Ile Ser Arg Glu Asn Ala Lys Asn 65 70 75 acc ctg tac ctg caa atg agt agt ctg aag tct gag gac acg gcc ttg Thr Leu Tyr Leu Gln Met Ser Ser Leu Lys Ser Glu Asp Thr Ala Leu 80 85 90	.92
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Thr Leu Tyr Leu Gln Met Ser Ser Leu Lys Ser Glu Asp Thr Ala Leu 80 85 90	88
tat tat tgt gtc aga tat gat cac tat agt ggt agc tcc gac tac tgg 38	36
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Pro Gly Ala Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe 15 20 25	
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Asp Asn Val Lys Gly Arg Phe Thr Ile Ser Arg Glu Asn Ala Lys Asn
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Thr Leu Tyr Leu Gln Met Ser Ser Leu Lys Ser Glu Asp Thr Ala Leu
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Tyr Tyr Cys Val Arg Tyr Asp His Tyr Ser Gly Ser Ser Asp Tyr Trp
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                               5
Val Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser
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                            20
Leu Leu Asp Ser Asp Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Lys
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                                          40
Pro Gly Gln Ser Pro Gln Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp
                                       55
                    50
Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe
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Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr
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Val Glu Ile Lys
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 Glu Trp Val Ala Ser Ile Arg Ser Gly Gly Gly Gly Arg Thr Tyr Tyr Ser
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 Asp Asn Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
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20

15

-7-

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Leu Lys Ile Lys Lys Val Glu Ala Glu Asp Leu Gly Ile Tyr Tyr Cys 85

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                 -15
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agc Ser 30	act Thr	tct Ser	ggt Gly	atg Met	gga Gly 35	gtg Val	agc Ser	tgg Trp	att Ile	cgt Arg 40	cag Gln	cct Pro	tca Ser	gga Gly	aag Lys 45	192
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Va	l Lei	ı Se:	r Gli	-15 n Ala		r Lei	ı Ly:	s G1ı			/ Pro	Gl ₃	7 I1e	_	ı Gln	
	15		n Th			20	ı Th:				25	c G13			r Leu	
3.0	r Th				35	y Vai				40					y Lys 45	
G1				50					55					60	g Tyr	
			65					70					75		r Arg	
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aagateteee gegtggagge egaggaegtg ggegtgtaet aetgetggea gggeaeceae 360
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Ala Leu Glu Val Pro Thr Asp Gly Asn Ala Gly Leu Leu Ala Glu Pro $20 \\ 25 \\ 30$

Gln Ile Ala Met Phe Cys Gly Arg Leu Asn Met His Met Asn Val Gln 35 40 45

Gln Ile Thr Asn Val Val Glu Ala Asn Gln Pro Val Thr Ile Gln Asn 90 95

Trp Cys Lys Arg Gly Arg Lys Gln Cys Lys Thr His Pro His Phe Val

Ile Pro Tyr Arg Cys Leu Val Gly Glu Phe Val Ser Asp Ala Leu Leu 115 120 125

Val Pro Asp Lys Cys Lys Phe Leu His Gln Glu Arg Met Asp Val Cys

130 135 140 Glu Thr His Leu His Trp His Thr Val Ala Lys Glu Thr Cys Ser Glu

145 150 155 160 Lys Ser Thr Asn Leu His Asp Tyr Gly Met Leu Leu Pro Cys Gly Ile 165 170 175 177

Asp Lys Phe Arg Gly Val Glu Phe Val Cys Cys Pro Leu Ala Glu Glu
180 185 190

Ser Asp Asn Val Asp Ser Ala Asp Ala Glu Glu Asp Asp Ser Asp Val
195 200 205

Trp Trp Gly Gly Ala Asp Thr Asp Tyr Ala Asp Gly Ser Glu Asp Lys
210 215 220

Val Val Glu Val Ala Glu Glu Glu Glu Val Ala Glu Val Glu Glu Glu 225 230 235 240 Glu Ala Asp Asp Asp Glu Asp Asp Glu Asp Glu Asp Glu Val Glu Glu Glu

245 250 255 Glu Ala Glu Glu Pro Tyr Glu Glu Ala Thr Glu Arg Thr Thr Ser Ile

260 265 270

Ala Thr Thr Thr Thr Thr Thr Glu Ser Val Glu Glu Val Val Arg
275 280 285

Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys Arg Ala Met Ile 290 295 300

Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys Ala Pro Phe Phe 305

Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp Thr Glu Glu Tyr 325 330 335

Cys Met Ala Val Cys Gly Ser Ala Met Ser Gln Ser Leu Leu Lys Thr 340 345 Thr Gln Glu Pro Leu Ala Arg Asp Pro Val Lys Leu Pro Thr Thr Ala

355 360 365 Ala Ser Thr Pro Asp Ala Val Asp Lys Tyr Leu Glu Thr Pro Gly Asp 370 375 380 Glu Asn Glu His Ala His Phe Gln Lys Ala Lys Glu Arg Leu Glu Ala 390 395 Lys His Arg Glu Arg Met Ser Gln Val Met Arg Glu Trp Glu Glu Ala 405 410 Glu Arg Gln Ala Lys Asn Leu Pro Lys Ala Asp Lys Lys Ala Val Ile 425 Gln His Phe Gln Glu Lys Val Glu Ser Leu Glu Gln Glu Ala Ala Asn 435 440 Glu Arg Gln Gln Leu Val Glu Thr His Met Ala Arg Val Glu Ala Met 455 460 Leu Asn Asp Arg Arg Arg Leu Ala Leu Glu Asn Tyr Ile Thr Ala Leu 470 475 Gln Ala Val Pro Pro Arg Pro Arg His Val Phe Asn Met Leu Lys Lys 485 490 Tyr Val Arg Ala Glu Gln Lys Asp Arg Gln His Thr Leu Lys His Phe 505 500 Glu His Val Arg Met Val Asp Pro Lys Lys Ala Ala Gln Ile Arg Ser 525 520 Gln Val Met Thr His Leu Arg Val Ile Tyr Glu Arg Met Asn Gln Ser 535 540 Leu Ser Leu Leu Tyr Asn Val Pro Ala Val Ala Glu Glu Ile Gln Asp 550 555 Glu Val Asp Glu Leu Leu Gln Lys Glu Gln Asn Tyr Ser Asp Asp Val 565 570 Leu Ala Asn Met Ile Ser Glu Pro Arg Ile Ser Tyr Gly Asn Asp Ala 580 585 Leu Met Pro Ser Leu Thr Glu Thr Lys Thr Thr Val Glu Leu Leu Pro 600 605 Val Asn Gly Glu Phe Ser Leu Asp Asp Leu Gln Pro Trp His Ser Phe 615 620 Gly Ala Asp Ser Val Pro Ala Asn Thr Glu Asn Glu Val Glu Pro Val 630 635 Asp Ala Arg Pro Ala Ala Asp Arg Gly Leu Thr Thr Arg Pro Gly Ser 650 645 Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser Glu Val Lys Met Asp 665 Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val His His Gln Lys Leu 680 685 Val Phe Phe Ala Glu Asp Val Gly Ser Asn Lys Gly Ala Ile Ile Gly 695 700 Leu Met Val Gly Gly Val Val Ile Ala Thr Val Ile Val Ile Thr Leu 710 715 Val Met Leu Lys Lys Lys Gln Tyr Thr Ser Ile His His Gly Val Val 730 725 Glu Val Asp Ala Ala Val Thr Pro Glu Glu Arg His Leu Ser Lys Met 745 Gln Gln Asn Gly Tyr Glu Asn Pro Thr Tyr Lys Phe Phe Glu Gln Met 760 Gln Asn

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